

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the Application.

### **Listing of Claims:**

1. (Currently amended) A method of adjusting ~~the~~ a transmitting power of a wireless sending entity (e) in a network of wireless communicating entities, including the steps of:

- identifying the entities (e<sub>i</sub>) adjacent to the sending entity (e), ~~that is, being~~ the entities of the network, separate from the sending entity, from which the sending entity (e) is able to receive the messages; ~~the method being characterized in that it further includes the steps of:~~

- identifying, among the adjacent entities (e<sub>i</sub>), a minimum constellation associated with the sending entity (e), ~~that is, quantitatively,~~ as the smallest set of entities (e<sub>i</sub>) adjacent to the sending entity and (e) included in a circle centered on the sending entity such that ~~latter, and~~ at least three of ~~which (e<sub>i</sub>)~~ the entities of said set form a convex polygon circumscribing the sending entity (e); and

- ~~- identifying, among the adjacent entities (e<sub>i</sub>) not belonging to the minimum constellation, any so-called peripheral entities, whose own minimum constellation includes the sending entity (e);~~

- adjusting the transmitting power of the sending entity (e) to a ~~minimum~~ value enabling sufficient for the messages sent by the sending entity (e) to reach all ~~both~~ the entities of the minimum constellation associated with the sending entity (e) ~~and the identified peripheral entities.~~

2. (Currently amended) The method as claimed in claim 1, further including ~~an additional step in which,~~ after the step of adjusting the ~~having adjusted its~~ transmitting power, the step of sending from the sending entity sends to each adjacent entity (e<sub>i</sub>) a message containing:

- an identifier (e) associated with said sending entity (e),

- ~~the~~ a position  $(x, y)$  of the sending entity  $(e)$  and
- ~~the~~ a minimum sending distance  $(p)$  of the sending entity  $(e)$ , ~~that is, i.e.~~ the radius of the smallest circle, centered on the sending entity  $(e)$ , including the minimum constellation associated with the sending entity  $(e)$ .

3. (Currently amended) The method as claimed in claim 1 ~~or~~ 2, wherein the identification of the adjacent entities  $(e_i)$  consists in storing in a first table  $(L)$ , for each adjacent entity  $(e_i)$ :

- an identifier  $(e_i)$  associated with said adjacent entity  $(e_i)$ ,
- ~~the~~ a position  $(x_i, y_i)$  of said adjacent entity  $(e_i)$  and
- ~~the~~ a minimum sending distance  $(p_i)$  of said adjacent entity  $(e_i)$ , ~~that is, i.e.~~ the radius of the smallest circle, centered on said adjacent entity  $(e_i)$ , including the minimum constellation associated with said adjacent entity  $(e_i)$ .

4. (Currently amended) The method as claimed in claim 3, wherein each adjacent entity  $(e_i)$  sends the sending entity  $(e)$  a message containing:

- the identifier associated with the adjacent entity  $(e_i)$ ,
- the position  $(x_i, y_i)$  of the adjacent entity  $(e_i)$  and
- the minimum sending distance  $(p_i)$  of said adjacent entity  $(e_i)$ .

5. (Currently amended) The method as claimed in claim 3 ~~or~~ 4, wherein the step of identifying identification of the entities belonging to the minimum constellation associated with the sending entity  $(e)$  includes the step of storing in a second table  $(K)$ , for each adjacent entity  $(e_i)$  belonging to the minimum constellation:

- the identifier associated with said adjacent entity  $(e_i)$ ,
- the position  $(x_i, y_i)$  of said adjacent entity  $(e_i)$  and
- the minimum sending distance  $(p_i)$  of said adjacent entity  $(e_i)$ .

6. (Currently amended) The method as claimed in claim 5, ~~wherein the identification of the peripheral entities includes the step of~~ further comprising the steps of:

- identifying, among the adjacent entities not belonging to the minimum constellation, any peripheral entities defined as entities having a minimum constellation including the sending entity; and

- storing in a third table (J), for each of said entities:

- the identifier associated with said peripheral entity,
- the position of said peripheral entity, and
- the minimum sending distance of said peripheral entity.

7. (Currently amended) The method as claimed in claim 6, wherein the adjustment of the transmitting power includes the step of selecting either the greatest of the distances separating the sending entity (e) from the entities of the third table (J) or, when said third table (J) is empty, the greatest of the distances separating the sending entity (e) from the entities of the second table (K), the power adjustment being made in such a way as to adapt ~~the~~ a sending range to the selected distance.

8. (Currently amended) The method as claimed in claim 7, further including ~~additional steps in which,~~ after the step of adjusting the ~~having adjusted its~~ transmitting power:

- sending from the sending entity (e) sends to each of the adjacent entities (e<sub>i</sub>) a message containing the its identifier of said sending entity (e), its the position of said sending entity (x, y) and its the minimum sending distance of said sending entity (p); and

- emptying the the first, second and third tables (J, K, L) are emptied.

9. (Currently amended) A wireless communication unit ~~intended to form a sending entity (e) of~~ for a network of wireless communicating entities, comprising:

- means of identifying entities ( $e_i$ ) adjacent to said unit, ~~that is,~~ being the entities of the network, separate from said communication unit, from which said communication unit ~~the latter~~ is able to receive the messages;
- means of identifying a minimum constellation associated with said communication unit as, ~~that is, quantitatively,~~ the smallest set of entities ( $e_i$ ) adjacent to said communication unit included in a circle centered on said communication unit such that the latter, and at least three of ~~which ( $e_i$ )~~ the entities of said set form a convex polygon circumscribing said communication unit;
- ~~- means of identifying, among the adjacent entities ( $e_i$ ) not belonging to the minimum constellation, any so called peripheral entities, whose own minimum constellation includes said unit, and~~
- means of adjusting ~~the~~ a transmitting power of said communication unit to a ~~minimum~~ value enabling sufficient for the messages sent by the communication unit to reach ~~both~~ all the entities of the minimum constellation associated with said communication unit ~~and the identified peripheral entities.~~

10. (Currently amended) A network ( $\mathcal{N}$ ) of wireless communicating entities ( $e_i$ ), wherein each communication entity ( $e$ ) comprises:

- means of identifying entities ( $e_i$ ) adjacent to said communication entity ( $e$ ), ~~that is,~~ being the entities of the network, separate from said communication entity ( $e$ ), from which said communication entity ~~the latter~~ is able to receive the messages;
- means of identifying a minimum constellation associated with said communication entity, ( $e$ ), ~~that is, quantitatively,~~ as the smallest set of entities ( $e_i$ ) adjacent to said communication entity ( $e$ ) included in a circle centered on said communication entity such that the latter, and at least three of the entities of said set ~~which ( $e_i$ )~~ form a convex polygon circumscribing said communication entity ( $e$ ); ~~means of identifying, among the adjacent entities ( $e_i$ ) not belonging to the minimum constellation, any so called peripheral entities, whose own minimum constellation includes said entity ( $e$ ); and~~

- means of adjusting the transmitting power of said communication entity (e) to a minimum value enabling sufficient for the messages sent by this said communication entity (e) to reach all both the entities of the minimum constellation associated with said communication entity (e) and the identified peripheral entities.

11. (Currently amended) A computer program product, including instructions for ~~implementing the method as claimed in one of claims 1 to 8,~~ carrying out the following steps upon execution by processing means incorporated in ~~the~~ a sending entity belonging to a network of wireless communicating entities:

- identifying the entities adjacent to the sending entity, being the entities of the network, separate from the sending entity, from which the sending entity is able to receive messages;

- identifying, among the adjacent entities, a minimum constellation associated with the sending entity as the smallest set of entities adjacent to the sending entity and included in a circle centered on the sending entity such that at least three of the entities of said set form a convex polygon circumscribing the sending entity; and

- adjusting a transmitting power of the sending entity to a value sufficient for the messages sent by the sending entity to reach all the entities of the minimum constellation associated with the sending entity.

12. (New) The method as claimed in claim 1, further comprising the steps of:

- identifying, among the adjacent entities not belonging to the minimum constellation, any peripheral entities defined as entities having a minimum constellation including the sending entity.

13 (New) The method as claimed in claim 12, wherein the value of the transmitting power is adjusted so that the messages sent by the sending entity also reach the identified

peripheral entities.

14 (New) The method as claimed in claim 13, wherein the value of the transmitting power is adjusted as a minimum power value such that the messages sent by the sending entity also reach the identified peripheral entities.

15 (New) The wireless communication unit as claimed in claim 9, further comprising;

- means of identifying, among the adjacent entities not belonging to the minimum constellation, any peripheral entities defined as entities having a minimum constellation including said unit.

16 (New) The wireless communication unit as claimed in claim 15, wherein the power value set by the adjusting means is such that the messages sent by the sending entity also reach the identified peripheral entities.

17 (New) The wireless communication unit as claimed in claim 16, wherein the power value set by the adjusting means is a minimum power value such that the messages sent by the sending entity also reach the identified peripheral entities.

18 (New) The computer program product as claimed in claim 11, said steps further include:

- identifying, among the adjacent entities not belonging to the minimum constellation, any peripheral entities defined as entities having a minimum constellation including the sending entity.

19 (New) The computer program product as claimed in claim 18, wherein the value of the transmitting power is adjusted so that the messages sent by the sending entity also reach the identified peripheral entities.

20 (New) The computer program product as claimed in claim 19, wherein the value of the transmitting power is adjusted as a minimum power value such that the messages sent by the sending entity also reach the identified peripheral entities.